

## REMARKS

In the Office Action, the Examiner rejected Claims 1 and 3-9 under 35 U.S.C. §112, first paragraph.

Reconsideration is requested.

Claim 1 was amended to recite "wide surface flexible solar cells" instead of "photovoltaic cells". This amendment was made to correct an error made in translation of the original Italian application. In Italy the terms photovoltaic cell and solar cell are often confused. Photovoltaic cell is translated as "cella fotovoltaica" and solar cell is translated as "cella solare". "Fotocellula" means an ordinary photocell or photo-resistor. The root "cella" is the same for both photovoltaic cells and solar cells, and therefore sometimes becomes confused (as opposed to "cellula" for a photocell). On page 7, lines 1-7 the present application teaches that the sensors on the vest or helmet have a reduced thickness compared with ordinary photocells. Also, on the same page, lines 8-14 teach that the sensors have a "plane", and are "flexible". These are characteristics that can only apply to solar cells. The addition of the phrase "wide surface flexible" to the term "solar cells" is evident from Fig. 2, specifically reference numeral (12) and from the specification page 7, lines 8-15, wherein the sensor is described as flexible. Additionally, the specification has been amended on pages 7 and 11 to recite "wide surface flexible solar cell" instead of "photovoltaic cell". Therefore, it is believed that the amendments are not new matter.

In the Office Action, the Examiner rejected Claims 1 and 3-9 under 35 U.S.C. §103(a) as being unpatentable over Watkins, (G.B. 2,259,559 A, hereinafter "Watkins") in view

of Lebensfeld et al. (U.S. Pat. No. 6,302,796) (hereinafter Lebensfeld et al.) and further in view of Gammarino et al. (U.S. Pat. No. 4,086,711) (hereinafter Gammarino et al.).

Reconsideration is requested.

Claim 1 has been amended to recite "wide surface flexible solar cells" instead of "photovoltaic cells". Also, Claim 1 was amended to recite a "red film" which is applied to the surface of the sensor (i.e. solar cell) to act as an optic filter by removing emissions in the upper band of the visible light spectrum (specification at page 7, line 23). Additionally, the subject matter of claims 7 and 8 has been affirmatively recited in amended claim 1 to more specifically point out the claimed invention. None of the cited prior art teaches the use of "wide surface flexible solar cells" which employ a filter mechanism to ensure only single direct laser shots are registered by a targeting device. The present invention eliminates partially reflected or scattered shots that the prior art would register as a hit. This is accomplished through the use of the wide surface flexible solar cells in combination with a light filter and a subsequent attenuator. This combination is not anticipated or suggested by Watkins, Lebensfeld et al. or Gammarino et al.

Watkins discloses a simulated firearm system which is known in the prior art, however, Watkins does not disclose the use of wide surface flexible solar cells in combination with a light filter and a subsequent attenuator. Lebensfeld et al. does not alleviate any of these deficiencies.

Gammarino et al. discloses the use of a marksmanship training device wherein a laser emitter fires a laser at a target which reflects the laser to a solar cell which is positioned 1-2 meters away from the target (col. 2, lines

17-24). In contrast, the solar cells of the present invention are mounted on the "'bulletproof vest' 11, on the helmet 12 or the vest 38" (specification page 7, lines 6-7). This is not a comparable system. To combine the teaching of the prior art would require the target to remain stationary (i.e. not wearable), a set distance from the solar cell, thus considerably reducing the training effectiveness (or enjoyment in the case of a toy) of the present invention.

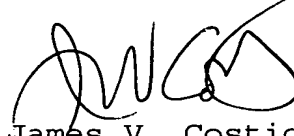
Furthermore, the present invention has reduced the problems associated with ambient visible light that can deteriorate the sensors or produce false positives by placing a high pass filter that attenuates all the frequencies below the frequency of the continuous wave (CW) modulation of the laser signal (see specification page 10 line 20 to page 11 line 2). Moreover, the wide surface flexible solar cells have a very poor response to wide bandwidth modulated CW laser signals, such as the signals used in the present invention. *Id.* This is caused by high capacitance due to the large detection area of the wide surface flexible solar cells. The wide surface flexible solar cells are optimized to convert sunlight into electrical energy. Sunlight has a relatively steady energy over time, and therefore attenuation is not usually necessary in systems with low detection area. In contrast, small single point photosensors (as disclosed in Watkins and Lebensfeld et al.) have no more than a 1 mm<sup>2</sup> detection area, whereas the wide surface flexible solar cells of the present invention have a minimum detection area of 18000 mm<sup>2</sup>, therefore necessitating high capacitance and producing a lower sensitivity to CW modulated lasers. Therefore, because the present invention discloses wide surface flexible solar cells in combination with a light filter and a subsequent

attenuator, the present invention is not anticipated or suggested by the prior art, and it is requested that the above §103 rejection be withdrawn.

Based on the above amendments and remarks, applicant respectfully submits that all of Claims 1, 3-6 and 9 are now allowable over the prior art and that the present application is in proper form for allowance.

An early and favorable action is earnestly solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'JVC', is written over the printed name.

James V. Costigan  
Registration No.: 25,669

MAILING ADDRESS

Hedman & Costigan, P.C.  
1185 Avenue of the Americas  
New York, NY 10036  
(212) 302-8989